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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,047	09/25/2000	Richard L. Goodson	H-0147	4079
7590	11/01/2004		EXAMINER	VO, DON NGUYEN
Mark J. Patterson Waddey & Patterson 414 Union Street, Suite 2020 Bank of America Plaza Nashville, TN 37219			ART UNIT	PAPER NUMBER
			2631	
			DATE MAILED: 11/01/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/670,047	GOODSON ET AL.
	Examiner DON N VO	Art Unit 2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 21 June 2004.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-12 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 21 June 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Acknowledgment***

1. This Office Action is responsive to the Amendment filed on 6/21/2004.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is now amended to recite the timing equalizer functionally independent from the linear equalizer (lines 7-8). However, claim 2 is depending from claim 1 which recites the timing equalizer including filter coefficients derived from equalizer coefficients generated in the linear equalizer. That is, the limitation of claim 2 is contradicting to the limitation of claim 1 which taking the combination of claim 1 and 2 into consideration, it is unclear of whether or not the timing equalizer is functionally independent from the linear equalizer.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3, 5, 7 and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yedid (6,240,132).

Regarding claims 1, 3, 5, 7 and 10-12, Yedid, as shown in figure 1, teaches a data communication receiver comprising a linear equalizer (10) and a timing loop having a timing equalizer (50) coupled timing recovery (30) for controlling the timing signal. The timing loop (50 and 30) as depicted by Yedid is functionally positioned independently from the linear equalizer (10). See column 1, line 30 to column 3, line 26. Yedid does not explicitly teach that the linear canceller (50) is a **timing equalizer** as claimed; however, the linear canceller (50) is functioning as an equalizer. See column 2, lines 45-61.

#### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yedid et al (6,240,132) in view of the admitted prior art (figure 1 and pages 2-3 of the instant application).

Yedid teaches all subject matter claimed except for implementing the timing recovery circuit (30) as early-late timing loop as now claimed. See explanation in paragraph 5 above. However, the admitted prior art figure 1 and pages 2-3 of the instant application teaches a conventional early-late timing loop for recovering timing. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify receiver of Yedid by implementing the timing recovery circuit (30) as an early-late timing loop as taught by the admitted prior art figure 1 and pages 2-3 of the instant application since it is just an alternative way of implementing the timing recovery circuit for recovering and controlling the timing signal.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yedid et al (6,240,132) in view of Harikumar et al (6,526,105).

Yedid teaches all subject matter claimed except for copying the equalizer coefficients from the linear equalizer to the timing equalizer as now claimed. See explanation in paragraph 5 above. However, Harikumar teaches copying the equalizer coefficients from one equalizer (300) to another equalizer (90). See figure 3A and column 7, line 17 to column 8, line 16 of Harikumar. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify receiver of Yedid by copying the equalizer coefficients from the linear equalizer (10) to the timing equalizer (50) as taught by Harikumar so that periodic training to be performed without disruption to the operation of the communication system is allowed. See column 7, lines 37-46 of Harikumar.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yedid et al (6,240,132) and the admitted prior art (figure 1 and pages 2-3 of the instant application) as applied to claim 8 above and further in view of Harikumar et al (6,526,105).

Both Yedid and the admitted prior art teach all subject matter claimed except for copying the equalizer coefficients from the linear equalizer to the timing equalizer as now claimed. See explanation in paragraph 5 above. However, Harikumar teaches copying the equalizer coefficients from one equalizer (300) to another equalizer (90). See figure 3A and column 7, line 17 to column 8, line 16 of Harikumar. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify receiver of Yedid by copying the equalizer coefficients from the linear equalizer (10) to the timing equalizer (50) as taught by Harikumar so that periodic training to be performed without disruption to the operation of the communication system is allowed. See column 7, lines 37-46 of Harikumar.

***Response to Arguments***

11. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DON N VO whose telephone number is (571) 272-3018. The examiner can normally be reached on TUE - FRI (9:00-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOHAMMAD GHAYOUR can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DON N VO  
Primary Examiner  
Art Unit 2631